STATISTICAL SUPPLEMENT

Contents

Explanation of Line Items

The following is a line-by-line explanation of the contents of the Statistical Supplement. Line reference numbers appear only in this "Explanation" for purposes of specifying formulas and do not appear in the body of the Statistical Supplement. In the "Line Reference Number" column, the letter [h] means that the line is solely a heading and contains no amounts.[1]

Line Reference Number	Line Item	Description
1[h]	Physical, production, and traffic factors (traffic data is for the year 2020)	Heading. Note that lines 4 through 53 relate to the year 2020, the midpoint year in the planning period.
2	Route-miles	This value can be expected to differ among Accelerail, New HSR, and Maglev options, as routing differences are common. Within the Accelerail range, values will differ in California North/South because 90 and 110 use the coastal alignment, while 125 and 150 use the Central Valley. In all corridors, slight discrepancies among Accelerail options may reflect differences in realignments.

[1] Line reference numbers 30, 54, and 76 are reserved and omitted from this listing.

Line Reference Number	Line Item	Description
3	Trip-time, hours, Los Angeles-San Francisco *(example taken from California North/South)*	In most corridors, this is the trip time between the two most distant stations in the city-pair mentioned; i.e., from the most northerly station in the San Francisco Consolidated Metropolitan Statistical Area (CMSA) to the most southerly station in the Los Angeles CMSA. In the Northeast Corridor only, specified trip times are from the vicinity of Penn Station, New York, to the vicinity of South Station, Boston.
4	Average train speed (mph)	= line 21 divided by line 27. Note: this is a system average speed and has nothing to do with the trip times quoted in line 3.
5	Average fare per passenger-mile (dollars)	= line 33 divided by line 8. Note: this is passenger transportation revenue (and not system revenue) divided by passenger-miles.
6	Trains per day in each direction	This is over the link specified in line 3.
7	Passengers, Millions of Trips (2020)	As is customary, "trips" are one-way trips. A traveler taking a round trip (e.g., from Chicago to Detroit and return) counts as two trips.
8	Passenger-Miles, Millions (2020)	
9	Average trip length (miles)	= line 8 divided by line 7.
10	Average trip length as % of route length	= line 9 divided by line 2.
11	HSGT traffic density per route-mile (millions of passenger-miles per route-mile)	= line 8 divided by line 2.
12	Percent of air traffic diverted	For air trips with both origin and destination within the corridor: the number of trips that would be diverted to HSGT divided by the number of air trips that would occur in the absence of HSGT.
13	Percent of intercity auto traffic diverted	The number of trips that would be diverted to HSGT divided by the number of auto trips that would occur in the absence of HSGT.
14[h]	Percent of HSGT traffic by source:	Heading. The following lines indicate the composition of the HSGT traffic in the year 2020. See Figure 7-11 for a graphic representation of the following percentages (for California North/South as an example). Percentages are based on "passengers" (i.e., trips).
15	Diverted from air	
16	Diverted from auto	
17	Diverted from conventional rail	
18	Diverted from bus	
19	Induced	Note: The induced traffic generally ranges from 7 to 9 percent of total HSGT traffic.
20[h]	Operating efficiency factors, 2020	Heading. The following are traditional statistics and derivatives used in the analysis of transportation operations.
21	Train-miles. millions	
22	Passenger-miles per train mile	= line 8 divided by line 21
23	Seat-miles, millions	

Line Reference Number	Line Item	Description
24	Load factor	= line 8 divided by line 23
25	Gross ton-miles, millions	
26	Passenger-miles per gross ton-mile	= line 8 divided by line 25
27	Train-hours, millions	
28	Passenger-miles per train hour	= line 8 divided by line 27
29	Operating ratio (O&M total expense/passenger transportation revenue)	= line 43 divided by line 33. Note that this derivative excludes ancillary activities and is intended as a measure of passenger transportation operating performance only.
31[h]	Operating results for 2020	Heading. Dollar amounts are in millions unless otherwise stated.
32[h]	Revenues:	Heading.
33	Passenger transportation revenue	This is the predominant revenue source.
34	Income from ancillary activities	This is net of associated expenses. See the "Ancillary Activities" section of Chapter 5.
35	System revenues	= line 33 plus line 34.
36	Percent of system revenues from ancillary activities	= line 34 divided by line 35. Normally equates to 2 to 5 percent.
37[h]	Operating and maintenance expenses:	Heading. See Chapter 5 for a discussion of the components of O&M expense.
38	Maintenance of way	
39	Maintenance of equipment	
40	Transportation	
41	Passenger traffic and services	
42	General and administrative	
43	Total O&M expense	= sum of lines 38 through 42.
44[h]	Per passenger-mile (dollars):	Heading. Equals each of lines 38 through 43, divided by line 8.
45	Maintenance of way	= line 38 divided by line 8.
46	Maintenance of equipment	= line 39 divided by line 8.
47	Transportation	= line 40 divided by line 8.
48	Passenger traffic and services	= line 41 divided by line 8.
49	General and administrative	= line 42 divided by line 8.
50	Total O&M expense	= line 43 divided by line 8.
51	Operating surplus	= line 35 minus line 43.
52	Operating surplus per passenger-mile (dollars)	= line 51 divided by line 8.
53	Year showing first operating surplus	Within the planning period 2000-2040, this is the first year in which line 51 is greater than zero. Most cases show a projected surplus in the first year.
55[h]	Life-Cycle Measures (All amounts are present values, as of the year 2000, of cash inflows/outflows between 2000 and 2040.)	Heading. All the following lines reflect present values pertaining to the entire planning period. (For initial investments, the outflows are actually assumed to occur in the three years preceding 2000; see Chapter 4.) Dollar amounts

Line Reference Number	Line Item	Description
		are in millions.
56[h]	Revenues:	Heading.
57	Passenger Transportation Revenues	Analogous to line 33.
58	Income from Ancillary Activities	Analogous to line 34.
59	System Revenues	= line 57 plus line 58.
60	Less: Total O&M expenses	Analogous to line 43.
61	Operating surplus	= line 59 minus line 60.
62	Less: Continuing investments	As described in Chapter 5, the continuing investments are all capital programs occurring after the inception of service.
63	Surplus after continuing investments	= line 61 minus line 62.
64[h]	Initial investment:	Heading.
65	Initial vehicle investment	
66	Initial infrastructure investment	
67	Initial investment for ancillary activities	
68	Initial investment, Total	= sum of lines 65 through 67.
69[h]	Percent of total initial investment pertaining to--	Heading. Equals each of lines 65 through 67, divided by line 68.
70	Vehicles	= line 65 divided by line 68.
71	Infrastructure	= line 66 divided by line 68.
72	Ancillary activities	= line 67 divided by line 68.
73	Total initial investment per route-mile	= line 68 divided by line 2. Note that this per-mile figure includes vehicles and ancillary investments.
74	Portion of initial investment that is not covered by surplus after continuing investments	= line 68 minus line 63. On the supposition that the present value of all surpluses (i.e., line 63) accrues to the governmental partners, this line represents the net public investment in the project. To the degree that less than all surpluses accrue to the governmental partners, the net public investment would be so much the greater.
75	Percentage of initial investment covered by surplus after continuing investments	= line 63 divided by line 68. This is a key commercial measure since it approximates the maximum percentage of the project that might be self-financed.
77[h]	Comparison of Benefits and Costs; Assessment of Partnership Potential	Heading.
78	Surplus after continuing investments	This is line 63, repeated here. The existence of a surplus after continuing investment is the first of two tests for partnership potential (see Chapter 3 and line 107 below).
79[h]	Total benefits:	Heading.
80[h]	Benefits to HSGT users:	Heading. See Chapter 6.
81	System revenues	These are the “benefits for which HSGT users pay directly.”
82	Users' consumer surplus	These are the benefits for which HSGT users do not pay directly.

Line Reference Number	Line Item	Description
83	Total benefits to HSGT users	= line 81 plus line 82.
84[h]	Benefits to the public at large:	Heading.
85[h]	Airport congestion delay savings	Heading.
86	Operation delays	These are the operational savings to airlines from the reduced airport congestion projected to be occasioned by HSGT.
87	Passenger delays	This is the value of air passengers' time saved due to projected reductions in airport congestion.
88	Total airport congestion delay savings	= line 86 plus line 87.
89	Highway delay savings	This is the value of reduced highway congestion projected to result from HSGT.
90	Emission savings	This is the value of reduced emissions projected to result from HSGT.
91	Total benefits to the public at large	= sum of lines 88 through 90.
92	Total benefits	= line 83 plus line 91. That is: the total benefits to users and the public at large.
93[h]	Total costs:	Heading. The following three lines show the constituents, by type, of total costs:
94	Initial investment	= line 68.
95	O&M expense	= line 60.
96	Continuing investments	= line 62.
97	Total costs	= sum of lines 94 through 96.
98[h]	Incidence of total costs:	Heading. The following lines distribute the total costs among the sources of funds: users at the farebox, versus the public at large.
99	Costs borne by users	This equals system revenues as shown in line 59. When total costs are greater than revenues—as is true with the cases projected in this report—then system revenues necessarily represent the portion of those total costs for which users pay.
100	Publicly-borne costs	= line 97 less line 99. That is, it is the total costs less the costs borne by users. It also equals line 74, which is another way of arriving at the same result.
101	Total benefits less total costs	= line 92 less line 97.
102	Benefits to HSGT users less costs borne by users	= line 83 less line 99.
103	Benefits to the public at large less publicly-borne costs	= line 91 less line 100.
104	Ratio of total benefits to total costs	= line 92 divided by line 97. This ratio (calculated to one decimal place) must equal or exceed 1.0 to meet the second of two tests of partnership potential (see Chapter 3 and line 107 below).
105	Ratio of benefits to HSGT users, to costs borne by users	= line 83 divided by line 99.

Line Reference Number	Line Item	Description
106	Ratio of benefits to the public at large, to publicly-borne costs	= line 91 divided by line 100.
107	Does this case meet the threshold tests for "partnership potential"?	If line 78, the surplus after continuing investments, is greater than zero; and if line104, the ratio of total benefits to total costs, is 1.0 or more; then this report deems the case to have “partnership potential” and a “YES” appears here. Otherwise, no “partnership potential” is found and a “NO” appears in the appropriate column.